

Abstract of the Disclosure

A signal transmitting method and apparatus by which an orthogonal frequency division multiplexing (OFDM) method is improved are disclosed. To achieve the first object, the present invention provides a method for transmitting orthogonal frequency division multiplexing (OFDM) signals, the method including:
5 (a) coding the OFDM signals; (b) forming a block of N coded data and dividing the block into L M-sized small blocks, where N, M and L indicate integers of 1 or more, and $L = N/M$; (c) M-point inverse fast Fourier transforming the L small blocks; (d) combining L M-point inverse fast Fourier transformed blocks, and generating an N-sized inversely-transformed block; (e) attaching a cyclic prefix to the N-sized
10 inversely-transformed block; and (f) transforming the blocks having the attached cyclic prefix, into an analog signal and transmitting the transformed analog signal.

To achieve the first object, the present invention provides a method of receiving OFDM signals, the method including: (a) digitally converting received OFDM signals and obtaining a signal sample from the transformed signals; (b)
5 detecting the starting point of an N-sized signal sample block from the signal samples, and removing a cyclic prefix; (c) dividing the signal sample block into L M-sized small blocks, where N, M and L are integers of 1 or more, and $L = N/M$; (d) M-point inverse fast Fourier transforming the L small blocks; (e) combining the L M-point inverse fast Fourier transformed small blocks, and generating an N-sized
20 transform block; and (f) detecting data from the N-sized transform block, and decoding the detected data. Thus, compared to a typical OFDM method, the PAR of a signal is significantly reduced, and compared to a typical single carrier method, the structure of an equalizer is simplified.